Volume 2015 Article 174

2015

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Palo Pinto County, Texas

February 2015

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Principal Investigator: Ben Fullerton

Permit No: 7045

INTENSIVE ARCHAEOLOGICAL SURVEY FOR THE PROPOSED PALO PINTO COUNTY RO TREATMENT PLANT, PALO PINTO COUNTY, TEXAS

By

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Texas Antiquities Permit Number 7045

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Management Summary

The Palo Pinto County Municipal Water District No. 1 contracted HDR Engineering, Inc. (HDR) to conduct an intensive cultural resources survey of the area proposed for the installation of a Reverse Osmosis (RO) Treatment Plant in the unincorporated community of Brazos, Palo Pinto County, Texas. The Area of Potential Effects (APE) consists of the approximately 3.3-acre area of the RO Treatment Plant Site. The archaeological investigation conducted by HDR consisted of intensive survey of the APE to determine the presence/absence of archaeological resources by employing pedestrian survey, shovel testing, and photo documentation. Fieldwork took place on November 13, 2014. HDR project personnel consisted of Principal Investigator Ben Fullerton, Crew Chief Megan Koszarek, and Field Technician Ben Morton. A total of eight person-hours were invested in the field project.

The survey resulted in a pedestrian walkover and photo documentation of the project area as well as the excavation of eight negative shovel tests. No archaeological materials were identified during the investigation. In accordance with 36 *Code of Federal Regulations* (CFR) 800 and 13 *Texas Administrative Code* [TAC] 26, no further archaeological investigations are recommended. As a result of the present survey, it is recommended that the proposed installation of the RO Treatment Plant will not have any effect on cultural resources in the project APE, and construction may proceed. In the event that any archaeological deposits are encountered during construction, work should cease, and the Texas Historical Commission (THC) should be notified.

All records and materials generated by this project will be permanently curated at the Center for Archaeological Studies at Texas State University in San Marcos, Texas.

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Abbreviations and Acronyms

APE	Area of Potential Effects
Atlas	Texas Archeological Sites Atlas
CFR	Code of Federal Regulations
cm	Centimeter(s)
CTA	Council of Texas Archeologists
ft	Foot/Feet
GPS	Global Positioning System
in	Inch/Inches
km	Kilometer(s)
m	Meter(s)
NRHP	National Register of Historic Places
SAL	State Antiquities Landmark
TAC	Antiquities Code of Texas
TARL	Texas Archeological Research Laboratory
THC	Texas Historical Commission
USACE	U.S. Army Corps of Engineer

1 Introduction

The Palo Pinto County Municipal Water District No. 1 contracted HDR Engineering, Inc. (HDR) to conduct an intensive cultural resources survey of the area proposed for the installation of a Reverse Osmosis (RO) Treatment Plant in the unincorporated community of Brazos, Palo Pinto County, Texas (Figure 1-1). The Area of Potential Effects (APE) consists of the approximately 3.3-acre area of the RO Treatment Plant Site.

The purpose of the cultural resources investigation in the project area is to determine the presence/absence of archaeological resources (36 *Code of Federal Regulations* [CFR] 800.4) and to evaluate identified resources for their eligibility for inclusion in the National Register of Historic Places (NRHP), as per Section 106 (36 CFR 800) of the National Historic Preservation Act of 1966, as amended, or as a designated State Antiquities Landmark (SAL) under the Antiquities Code of Texas (13 TAC 26.12). Fieldwork took place on November 13, 2014. HDR project personnel consisted of Principal Investigator Ben Fullerton, Crew Chief Megan Koszarek, and Field Technician Ben Morton. A total of eight person-hours were invested in the field project.

All records and materials generated by this project will be permanently curated at the Center for Archaeological Studies at Texas State University in San Marcos, Texas.

The remainder of the report is organized in the following manner. Chapter 2 presents the environmental and cultural context for the cultural resources survey. Chapter 3 details the methods employed during the cultural resources survey. Chapter 4 details the results of the survey. Chapter 5 is a summation and presentation of recommendations.

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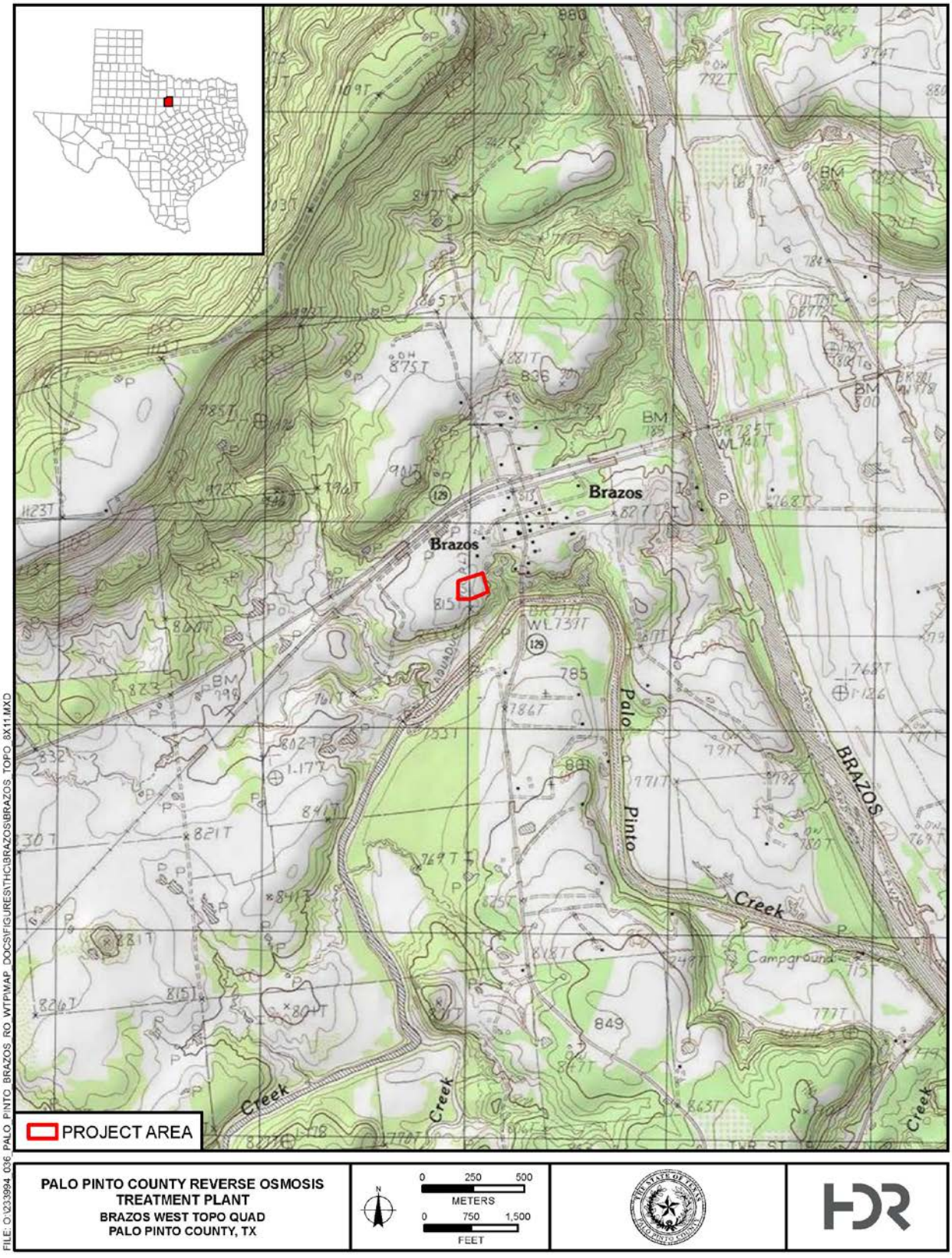

Figure 1-1. Topographic Map of the Project Area

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2 Background

2.1 Geology and Soils

The underlying geology within the project area consists of the Grindstone Creek Formation, expanded, of the Carboniferous Pennsylvanian Age (Bureau of Economic Geology 1992). According to data from the Natural Resources Conservation Service (NRCS), the project area contains one soil map unit, which is mapped on upland ridges, toe slopes, or foot slopes: Thurber clay loam, 1 to 3 percent slopes; and Truce fine sandy loam, 1 to 3 percent slopes (Soil Survey Staff 2014).

2.2 Cultural History

Table 2-1 presents the general North Central Texas prehistoric chronology, as modified by Peter and McGregor (1988) from formulations by Prikryl (1987) and Skinner and Baird (1985).

Table 2-1. General Cultural Chronology for North Central Texas

(After Peter and McGregor (1988), Prikryl (1987), and Skinner and Baird (1985)

Period	Age (B.C./A.D.)
Paleo-Indian	ca. 9500–6500 B.C.
Archaic	6500 B.C.–A.D. 700
Late Prehistoric	A.D. 700 – 1600
Protohistoric	A.D. 1600 –1800

2.2.1 Paleo-Indian (9500–6500 B.C.)

The Paleo-Indian period in North Central Texas generally includes the remnants of human presence that can be dated to the very late Pleistocene and the immediate post-Pleistocene periods. Unfortunately, the Paleo-Indian occupation of North Central Texas is known primarily through diagnostic projectile points from surface collections or from stratigraphically mixed contexts (Meltzer 1987; Meltzer and Bever 1995). For a recent review of Paleo-Indian evidence throughout Texas, see Bousman et al. 2004; for earlier reviews with discussions specific to North Central Texas, see Hofman (1989a), Johnson (1989), Prikryl (1990), and Story (1990).

2.2.2 Archaic (6500 B.C.–A.D. 700)

The Archaic period in North Central Texas is tentatively dated between 6500 B.C. and A.D. 700. As is common in Texas archeology and throughout North America, a threefold division of the Archaic period—consisting of Early, Middle, and Late subperiods—has been applied in North Central Texas (Prikryl 1990). Thus, the Early Archaic has been dated from 6500 to 4000 B.C., the Middle Archaic from 4000 to 1500 B.C., and the Late Archaic from 1500 B.C. to A.D. 700 (overviews that cover the Archaic in this portion of

Texas include Hofman 1989a; Prikryl 1990; and Story 1985, 1990). General trends that have been proposed as characterizing the Archaic period in North Central Texas suggest increasingly complex settlement systems, increasing population size and density, gradually decreasing mobility, and development of distinct group territories (Prikryl 1990; Story 1985:52).

2.2.3 Late Prehistoric (A.D. 700–1600)

The beginning of what is called the Late Prehistoric period in North Central Texas is marked by the initial appearance of pottery and arrow points. Both Lynott (1977) and Prikryl (1990) have proposed that the Late Prehistoric period be divided into an early and a late phase: the early phase reflecting a continuation of the foraging subsistence system of the preceding Late Archaic period, and the late phase reflecting Southern Plains influences. In this view, the early phase dates between A.D. 700 and 1200 and is characterized by sand- and grog-tempered ceramics and by Scallorn, Steiner, Catahoula, and Alba arrow points (Lynott 1977; Prikryl 1990). The late phase dates from A.D. 1200 to 1600 and is associated with the appearance of Nocona Plain ceramics, various unstemmed triangular points (e.g., Maud, Fresno, Harrell, Washita), and the stemmed Perdiz point (Lynott 1977; Prikryl 1990). Evidence of horticulture and bison procurement also appears in sites of this period (Harris and Harris 1970; Morris and Morris 1970).

2.2.4 Protohistoric (A.D. 1600–1800)

Within North Central Texas, the time from A.D. 1600 to 1800 has been designated as the Protohistoric period. Prior to the founding of New Mexico in 1598, the European presence in the Southwest and on the Southern Plains had been sporadic at best: Coronado in 1540–1541, the Rodriguez-Chamuscado party in 1581, and Espejo in 1582–1583, among others. After 1598, however, Spanish influence was never absent from the Southern Plains, although actual contact with Europeans continued to be limited, and there are only brief records of journeys into or through the area (Hofman 1989b; John 1975). Despite this, it was not until the beginning of the nineteenth century that the physical presence of Europeans on the Southern Plains became commonplace—the result of increasingly peaceful relations between the Spanish in Texas and the Plains Indians to the north, and the acquisition of Louisiana by the United States in 1803. Prior to about 1725–1750, Apachean groups appear to have dominated the western portion of the Southern Plains, known as the High Plains, but after this time the area was increasingly controlled by the Comanche and Kiowa. On the eastern portion of the Southern Plains, within the area now known as the Lower Plains and North Central Texas, the Wichita tribes became dominant (Bell et al. 1967; Hofman 1989b:91).

2.2.5 Historic European and Euro-American Cultural Period (1800–present)

Prior to the establishment of Palo Pinto County in 1856, land that would become the county proper was occupied by a number of Native American tribes until their relocation to the Brazos Lower Indian Reservation by 1854. While Texas was still under Mexican rule, the Mexican government issued 26 colonial grants between 1823 and 1830. Land—including that which would become Palo Pinto County—was granted to Stephen F. Austin and his partner Samuel Williams. Austin and Williams were part of the

empresario system, first initiated when Spain ruled Mexico in the eighteenth century. In 1834, when the Mexican state Coahuila y Tejas tried to increase its state coffers, it offered large quantities of land to investors/land speculators. Sources indicate there was minimal new settlement in the Palo Pinto County area during this time period (Gibson 2001:32; PPCHC 1986, 2006).

After winning its independence from Mexico, the Republic of Texas declared a moratorium on new land grants until a system could be put in place to allow soldiers and veterans access to the same opportunities as immigrants from the U.S. A general land office was created in 1836, and all extant land titles and surveys were collected from landowners and became public property at that time. All unclaimed land reverted to the republic and, with the assistance of the new land office, the government instituted a number of programs to increase the republic's population and its revenue (Texas GLO 2007:10). Settlement in Palo Pinto County was still limited under the Republic of Texas.

As part of its annexation agreement with the United States, Texas retained both its public debt and its public lands. Many of the land grant programs initiated under the republic were extended in order to maintain a stable revenue stream for the new state. Agreements between government—both state and federal—and railroad companies had a monumental effect on land usage and population distribution within Palo Pinto County and throughout the state. At the same time as the railroad business in Texas was beginning to take shape, so was Palo Pinto County. The state passed the Homestead Law in 1854 that declared all unsettled and unimproved lands once again in the public domain and open for preemption settlement. Over the years, the area has been part of Milam (first known as Viesca under Mexican rule), Robertson, Navarro, McLennan, and Bosque counties, prior to becoming Palo Pinto County in 1856 (Long 2008). The county seat of Golconda was founded in 1857 and was renamed Palo Pinto in 1858.

Since the establishment of Palo Pinto County, acreage had been used as the land grants authorized: large tracts of land for grazing and smaller areas for farming. In the 1870s, some of the largest cattle ranchers in Texas were from Palo Pinto County: the Hittsons, Jowell brothers, George Bevers, and Jere Hart (Gibson 2001:59).

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3 Methods

3.1 Previous Investigations Near the Project Area

A review of the Texas Archeological Sites Atlas (Atlas), maintained by the THC, was consulted to identify any cultural resources within one mile of the project area. This search indicated that no previously recorded archaeological sites or previous cultural resources surveys have been conducted within a one-mile radius of the project area. Furthermore, no cemeteries, historical markers, or NRHP-listed properties or districts are recorded within that radius.

3.2 Survey Methods

HDR conducted an intensive cultural resources survey of the approximate 3.3-acre project APE by employing a pedestrian walkover and shovel testing according to the THC survey standards (as referenced in 13 TAC 26.20). Shovel testing was conducted according to THC minimum survey standards for non-linear projects ranging from 3 to 10 acres in size. The current project area is approximately three acres in size, requiring a minimum of two shovel tests per acre, resulting in a total minimum of six shovel tests within the project area. Areas with greater than 15 percent slope were not shovel tested, such as the eastern portion of the project area. Each shovel test was approximately 30 centimeters (cm; 12 inches [in]) in diameter and was excavated in 20-cm (8-in) arbitrary levels to a depth of 80 cm (32 in) below surface or until sterile subsoil was encountered. The soil removed was screened through 0.635-cm (0.25-in) mesh screen, and soil descriptions followed the guidelines and terminology established by the National Soil Survey Center (Schoeneberger et al. 2002). Soil colors were recorded using a Munsell Soil Color Chart. All excavated shovel tests were recorded on shovel test forms which note depth, soil matrix descriptions, and cultural materials recovered. Digital photographs were used to document the survey conditions, disturbances, and any cultural features observed; and details of each photograph were recorded on standardized forms. All shovel test locations were recorded using a Trimble XT Global Positioning System (GPS) unit with sub-meter accuracy.

3.2.1 Site Designation

The THC differentiates between archaeological sites and isolated finds. Sites are evaluated and recommended eligible or ineligible for inclusion in the NRHP. Isolated finds are ineligible for inclusion in the NRHP as they do not meet the requirements to be designated as a site. The HDR standards for defining archaeological sites and isolated finds involve the cultural affiliation and number of artifacts present within an area of pre-determined size. A prehistoric site designation is applied when five or more prehistoric artifacts are present within a 20 m^2 area. A historic site designation is applied when 10 or more artifacts of two or more artifacts classes are present within a 20 m^2 area. Isolated finds are defined as the presence of four artifacts or less within a 20 m^2 area. Site boundaries are defined by the presence of surficial materials and by shovel tests yielding cultural materials. Where possible all radial shovel tests are excavated at 10 m intervals until two sterile units are encountered in all cardinal directions. As part of the

identification and documentation of sites, sites are recorded on a State of Texas Archaeological Data Site Form. This form records a variety of data including location, setting, artifactual materials recovered, and other information. All sites are sketch-mapped, recorded using a GPS, and photo-documented. Once completed, the form is submitted to the Texas Archeological Research Laboratory (TARL) for official trinomial designation. All records and materials generated by this project will be permanently curated at the Center for Archaeological Studies at Texas State University in San Marcos, Texas.

4 Results

The APE consists of approximately 3.3 acres in the unincorporated community of Brazos, Palo Pinto County, Texas. The intensive survey of the APE consisted of shovel testing within the project area, and a total of eight shovel tests were excavated during the survey (Figure 4-1). The shovel tests were concentrated on an upland hilltop, where the slope was less than 15% (Figure 4-2 and Figure 4-3). All shovel tests were excavated until reaching sterile subsoil during the survey. The typical shovel test profile consisted of 0 to 20 cm (0 to 8 in) of strong brown (10YR 4/6) silty loam underlain by 20 to 30 cm (8 to 12 in) of dark brown (10YR 3/4) clay loam subsoil (Figure 4-4). All shovel tests were negative for cultural materials. No archaeological sites or isolated finds were identified during the course of this survey.

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Figure 4-1. Aerial Photographic Map of Project Area Showing Survey Results

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Figure 4-2. Overview of Project Area from Shovel Test 6, Facing North Northwest.

Figure 4-3. Overview of Project Area from Shovel Test 2, Facing Southeast.

Figure 4-4. Shovel Test 1 Soil Profile.

5 Summary and Recommendations

5.1 National Register Eligibility

5.1.1 Criteria for Evaluation of Eligibility

As part of the Section 106 review process, cultural resources investigations are undertaken with the purpose of identifying resources that are listed in, or eligible for listing in, the NRHP. The assessment of significance of cultural resources is based on federal guidelines and regulations. Any cultural resource that is listed in or eligible for inclusion in the NRHP is known as a "historic property," and the term "eligible for inclusion in the NRHP" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet NRHP-listing criteria (36 CFR 800.2). The criteria for evaluating properties for inclusion in the NRHP (36 CFR 60.4 [a–d]) are codified under the authority of the National Historic Preservation Act of 1966, as amended; and the Advisory Council on Historic Preservation has set forth guidelines to use in determining site eligibility. Subsequent to the identification of relevant historical themes and related research questions, these four criteria for eligibility are applied:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, material, workmanship, feeling, and association and

A. that are *associated with events* that have made a significant contribution to the broad patterns of our history; or

B. that are *associated with the lives of persons* significant in our past; or

C. that *embody the distinctive characteristics* of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or *may be likely to yield, information important in prehistory or history*. Note that the application of Criterion D presupposes that the information imparted by the site is significant in history or prehistory [36 CFR 60.4, emphasis added].

The physical characteristics and historic significance of the overall property are examined when conducting NRHP evaluations. Although a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D; specific data are also required for individual components therein based on date, function, history, physical characteristics, and other information. Resources that do not relate in a significant way to the overall property may contribute if they independently meet the NRHP criteria.

For a historic resource, district, or landscape to be determined eligible for the NRHP, it must retain enough of its historic integrity to convey its significance. For the NRHP, there are seven aspects of integrity:

1. Location
2. Design
3. Setting

4. Materials
5. Workmanship
6. Feeling
7. Association

Occasionally, certain resources fall into categories in which they must be evaluated further using one or more of the following Criterion Considerations. If a resource identified during the reconnaissance-level survey falls into one of these categories, the following Criterion Considerations will be applied in conjunction with one or more of the four National Register criteria:

A. A religious property deriving primary significance from architectural or artistic distinction or historical importance, or

B. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or

C. A birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his or her productive life, or

D. A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or

E. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or

F. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance, or

G. A property achieving significance within the past 50 years if it is of exceptional importance (36 CFR 60.4).

The scientific value of archaeological sites is assessed under Criterion D. With regard specifically to this criterion, the goal of prehistoric archaeological research and management is to fill gaps in the knowledge about specific research domains. Scientific importance is driven, in part, by the research paradigms of the time and in part by the amount of information available about a particular research topic in a specific geographic area. The most robust forms of scientific importance should honor diverse and occasionally competing schools of research interests and their attendant approaches. In order to fulfill Criterion D, a site must possess certain attributes (e.g., intact buried cultural strata with functionally and temporally diagnostic materials, datable cultural features) such that further intensive research at the site could be expected to add additional information to relevant research questions.

The research domains are addressed through testing and excavation programs; over time, data required for addressing specific questions are collected, analyzed, and compiled. Eventually, the potential importance, or significance, of sites that contain only the types of data already collected may diminish. This suggests the identification criteria of important historic properties are tied to both a specific geographic area reflecting a cultural adaptation or cultural region and a state of accumulated knowledge about a

research domain topic. The criteria and priorities of important sites are apt to shift as accepted research paradigms change or as data accumulations approach redundancy. Archaeological sites that retain contextual integrity and contain artifacts and features capable of contributing information toward addressing relevant research issues are significant and should therefore be considered eligible for inclusion in the NRHP.

5.1.2 State Antiquities Landmark

At the state level, archaeological sites may be considered significant and be recognized or designated as an SAL, provided that at least one of the following conditions is met:

1. The archaeological site is situated on lands owned or controlled by the State of Texas or one of its political subdivisions; or
2. The archaeological site is situated on private land which has been specifically designated as an SAL and fits at least one of the following criteria:
    A. Preservation of materials must be sufficient to allow application of standard archaeological techniques to advantage;
    B. The majority of artifacts are in place so that a significant portion of the site's original characteristics can be defined through investigation;
    C. The site has the potential to contribute to cumulative cultural history by the addition of new information;
    D. The site offers evidence of unique or rare attributes; and/or
    E. The site offers a unique and rare opportunity to test techniques, theories, or methods of preservation, thereby contributing to scientific knowledge [Texas Natural Resources Code 1977; Title 9, Chapter 191, Texas Antiquities Committee, Section 191.094 and Chapter 41.7, Antiquities Code of Texas].

Buildings, structures, cultural landscapes, and non-archaeological sites, objects, and districts may be designated as an SAL, provided that the following conditions are met:

1. The property fits within at least one of the following criteria:
    A. The property is associated with events that have made a significant contribution to the broad patterns of our history, including importance to a particular cultural or ethnic group;
    B. The property is associated with the lives of persons significant in our past;
    C. The property embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction;
    D. The property has yielded, or may be likely to yield, information important in Texas culture or history;
2. The property retains integrity at the time of the nomination, as determined by the executive director of the commission; and
3. For buildings and structures only, the property must be listed in the NRHP, either individually, or as a contributing property within a historic district. Contributing status

may be determined by the Keeper of the National Register of the executive director of the commission.

5.2 Conclusion and Recommendation Summary

During the course of the intensive cultural resources survey for the proposed RO Treatment Plant Site, a total of approximately 3.3 acres was surveyed. As part of the survey, eight shovel tests were excavated within the APE. All shovel tests within the APE were excavated until sterile subsoil was encountered and were negative for cultural materials. No archaeological sites or isolated finds were identified as a result of the survey.

In accordance with 36 *Code of Federal Regulations* (CFR) 800 and 13 *Texas Administrative Code* [TAC] 26, no further archaeological investigations are recommended for the presently defined project area, and construction of the proposed RO Treatment Plant may proceed. However, in the event that any archaeological deposits are encountered during construction, work should cease, and the THC should be notified.

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